CLAIMS

What is claimed is:

1. A common platform for use with a host computer capable of controlling more than one type of equipment sensors, said common platform comprising:

a host interface for communicating with said host computer;

a control interface for receiving and communicating with an equipment sensor;

a memory for storing bootloader software; and

a processor coupled to said memory, said host interface and said control interface; said processor executing said bootloader software for performing the steps of:

downloading extension software into said memory;

determining the type of said equipment sensor;

downloading application software corresponding to the type of equipment sensor into said memory; and

executing said application software.

2. The common platform of Claim 1, wherein said application software produces steps to configure said common platform to perform a predetermined function.

3. The common platform of Claim 1, wherein said equipment sensor is removably attached to said common platform.

4. The common platform of Claim 1, wherein said host interface complies with a standard selected from a set of standards comprising Universal Serial Bus standard and RS232 standard.

5. The common platform of Claim 1, further comprising a power control module for providing power to said common platform from a power source selected from a set of power sources consisting of a power source embedded in said common platform, a power source provided from said host computer, and a power source external to said common platform and external to said host computer.

6. The common platform of Claim 5, wherein said equipment sensor is selected from a group of equipment sensors consisting of an alignment sensor, a gravity sensor, and an image-capturing device for capturing images of objects.

7. The common platform of Claim 1, wherein said processor sends information to said host computer indicating at least one of the following:

the type of said equipment sensor;

the version of said equipment sensor; and

the version of said application software that has been loaded to said memory.

8. The common platform of Claim 1, wherein said application software interfaces with said host computer to cause said host computer to run drivers corresponding to the function which said common platform is being performed.

9. The common platform of Claim 8, wherein said bootloader software is stored in a first memory and said application software is stored in a second memory.

10. The common platform of Claim 9, wherein said first memory is a non-volatile memory.

11. A common platform for use with a host computer capable of controlling more than one type of equipment sensors, said common platform comprising:

a host interface for communicating with said host computer;

a control interface for receiving and communicating with an equipment sensor;

a memory for storing bootloader software and application software; and

a processor coupled to said memory, said host interface and said control interface;

said processor configured for executing said bootloader software to perform the steps of:

downloading extension software into said memory;

determining the type of said equipment sensor;

determining whether said application software stored in said memory matches the type of said equipment sensor;

if said application software matches said equipment sensor, then executing said application software;

if the application software does not match said equipment sensor, then downloading new application software corresponding to said equipment sensor into said memory.

12. A method for preparing a common platform for use with a host computer capable of controlling more than one type of equipment sensors connected to said common platform, the method comprising the steps of:

reading bootloader software stored in said common platform;

downloading extension software into said common platform;

determining the type of equipment sensor connected to said common platform;

downloading application software corresponding to the type of said equipment sensor to said common platform;

configuring said common platform to perform a predetermined function.

13. The method of claim 12, further comprising a step of sending a signal to said host computer indicating the existence of said common platform.

14. The method of claim 12, wherein said equipment sensor is selected from a group of equipment sensors consisting of an alignment sensor, a gravity sensor, and an image-capturing device for capturing images of objects.

15. The method of claim 12, wherein before the step of downloading application software, the method further comprises a step of sending information to said host computer indicating at least one of the following:

the type of said equipment sensor;

the version of said equipment sensor; and

the version of said application software that has been loaded to said common platform.

16. A method for preparing a common platform for use with a host computer capable of controlling more than one type of equipment sensors connected to said common platform, the method comprising the steps of:

reading bootloader software stored in said common platform;

downloading extension software into said common platform;

determining the type of equipment sensor connected to said common platform;

determining whether application software stored in said common platform matches the type of said equipment sensor;

if said application software matches the type of said equipment sensor, then executing said application software;

if said application software does not match the type of said equipment sensor, then downloading new application software corresponding to said equipment sensor type into said common platform; and

configuring said common platform to perform a predetermined function.

17. A common platform for use with a host computer capable of controlling more than one type of equipment sensors, said common platform comprising:

a host interface for communicating with said host computer;

a control interface for receiving and communicating with an equipment sensor;

a memory for storing bootloader software and application software; and

a processor coupled to said memory, said host interface and said control interface;

said processor configured for executing said bootloader software to perform the steps of:

downloading extension software into said memory;

identifying a type of said equipment sensor to said host computer;

identifying the version of said application software stored in said memory to said host computer;

said host computer then determining whether said application software stored in said memory matches the type of said equipment sensor;

if said application software matches said equipment sensor, then causing said common platform to execute said application software; and

if said application software does not match said equipment sensor, then downloading new application software corresponding to said equipment sensor into said memory.